

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) An audio user-interfacing method in which items are represented in an audio field by corresponding synthesized sound sources from where sounds related to the items appear to emanate, ~~the user being able also to hear real-world sounds from the environment;~~ the method including while the user is able to hear real-world sounds from an environment where the user is located ~~the step of selectively applying, under user control, a distinctive presentation effect to the item-related sounds emanating from a group of at least one synthesised sound source whereby to assist the user in distinguishing these~~ the sounds emanating from the at least one sound source from said real-world sounds.

2. (Currently amended) A method according to claim 1, wherein the ~~said group of at least one sound source is associated with an audio-field reference relative to which the member sound sources of the group are~~ at least one sound source is positioned, the audio-field reference being offset relative to a presentation reference determined by a mounting configuration of audio output devices used to synthesise said at least one sound source ~~source~~ such as to world stabilise the audio-field reference as the user

moves; the ~~or each group~~ at least one sound source representing a corresponding augmented reality service that has an associated real-world location, and the ~~or each group~~ at least one sound source being positioned relative to the audio field reference such that for a user located in a notional reference position, the at least one sound source lies in the same direction as the associated real-world location.

3. (Original) A method according to claim 1, wherein said distinctive presentation is a sound effect.

4. (Original) A method according to claim 3, wherein said sound effect is at least one of: volume modulation pitch modulation frequency shifting distortion echo added noise added distinction sounds.

5. (Currently amended) A method according to claim 1, wherein the ~~said group of~~ at least one sound source is associated with an audio-field reference relative to which the at least one sound sources of the group are source is positioned and moving, the audio-field reference ~~being movable~~ relative to a presentation reference determined by a mounting configuration of audio output devices used to synthesise said sound sources such as to impart a particular stabilisation to the audio-field reference as the user moves, this stabilisation giving said distinctive presentation to the ~~group of~~ at least one sound source source.

6. (Original) A method according to claim 5, wherein the audio-field reference is head stabilised.
7. (Currently amended) A method according to claim 5, wherein the audio-field reference has an underlying ~~stabilisation~~stabilization, ~~the method further comprising to~~which it is periodically updatedupdating the underlying stabilization, the audio-field reference between such updating having a stabilisation inherent to the presentation reference.
8. (Currently amended) A method according to claim 5, wherein the ~~or each group at~~least one sound source represents an augmented reality service that has an associated real-world location, the ~~or each group at least one~~ sound source being positioned relative to the audio field reference such that for a user located in a notional reference position, the sound source lies in the same direction as the associated real-world location.
9. (Currently amended) A method according to claim 1, wherein there are plural synthesized sound sources, each sound source ~~is being~~ associated with one of multiple audio-field references relative to which the associated sound sources are positioned, the method further comprising moving the audio-field references ~~being independently movable~~ relative to a presentation reference determined by a mounting configuration of audio output devices used to synthesise said sound sources, with movement of a said

audio-field reference relative to the presentation reference resulting in corresponding movement of the associated sound sources relative to the presentation reference; the user applying a selected ~~said one of the~~ distinctive presentation effect ~~effects~~ to ~~the a~~ group of sound sources associated with an audio-field reference by choosing all the sound sources of that group as a whole.

10. (Currently amended) A method according to claim 1, wherein at least some of the ~~said-items~~ represented by the sound sources are audio labels for services, the method further ~~involving~~ including selecting a service by selecting the corresponding audio-label sound source.

11. (Canceled)

12. (Currently amended) Apparatus for providing an audio user interface in which items are represented in an audio field by corresponding synthesized sound sources from where sounds related to the items appear to emanate, the apparatus comprising:

- rendering-position determining means for determining, for each said sound source, an associated rendering position at which the sound source is to be synthesized to sound in the audio field;
- rendering means, including audio output devices, for generating an audio field in which said sound sources are synthesized at their associated rendering positions, the audio output devices being such as to permit the user also to hear real-world sounds from ~~the an~~ environment where the user is located; and

- distinctive-presentation means for selectively applying, under user control, a distinctive presentation effect to the item-related sounds emanating from ~~a group of~~ at least one synthesised sound source whereby to assist the user in distinguishing these the item-related sounds from said real-world sounds.

13. (Currently amended) Apparatus according to claim 12, wherein the rendering-position determining means comprises:

- means for setting the location of the ~~or each group~~ at least one sound source relative to an audio-field reference;
- means for controlling an offset between the audio field reference and a presentation reference, the presentation reference being determined by a mounting configuration of the audio output devices; and
- means for deriving the rendering position of the ~~or each group~~ at least one sound source based on its location relative to the audio-field reference and said offset;

~~the or each group~~ at least one sound source ~~representing being arranged to provide sounds for~~ a corresponding augmented reality service that has an associated real-world location, the rendering-position determining means being operative to world-stabilise the audio field reference and to position the ~~or each group~~ at least one sound source relative to the audio field reference such that for a user located in a notional reference position, the at least one sound source lies in the same direction as the corresponding said real-world location.

14. (Original) Apparatus according to claim 12, wherein said distinctive presentation applied by the distinctive-presentation means is a sound effect.

15. (Original) Apparatus according to claim 14, wherein said sound effect is at least one of: volume modulation pitch modulation frequency shifting distortion echo added noise added distinction sounds.

16. (Currently amended) Apparatus according to claim 12, wherein the rendering-position determining means comprises:

- means for setting the location of the ~~or each said group~~ at least one sound source relative to an audio-field reference;
- means for controlling an offset between the audio field reference and a presentation reference, the presentation reference being determined by a mounting configuration of the audio output devices; and
- means for deriving the rendering position of the ~~or each group~~ at least one sound source based on its location relative to the audio-field reference and said offset;

the rendering-position determining means incorporating said distinctive-presentation means and being operative to impart a particular stabilisation to the audio-field reference as the user moves, this stabilisation giving said distinctive presentation to the ~~group of at least one sound source~~ source.

17. (Original) Apparatus according to claim 16, wherein the audio-field reference is head stabilised.

18. (Original) Apparatus according to claim 16, wherein the audio-field reference has an underlying stabilisation to which it is periodically updated, the audio-field reference between such updating having a stabilisation inherent to the presentation reference.

19. (Currently amended) Apparatus according to claim 16, wherein the ~~or each group~~ at least one sound source ~~represents~~ is arranged to provide sounds for a corresponding augmented reality service that has an associated real-world location, the rendering-position determining means being operative to world-stabilise the audio field reference and to position the ~~or each group~~ at least one sound source relative to the audio field reference such that for a user located in a notional reference position, the at least one sound source lies in the same direction as the corresponding said real-world location.

20. (Currently amended) Apparatus according to claim 12, wherein there are plural sound sources, at least some of the said items represented by the sound sources are audio labels for services, the apparatus including a selection arrangement for enabling a user to select a service by selecting the corresponding audio-label sound source.

21. (Currently amended) Apparatus for providing an audio user interface in which items are represented in an audio field by corresponding synthesized sound sources from where sounds related to the items appear to emanate, the apparatus comprising:

- a rendering-position determining arrangement operative to determine, for each said sound source, an associated rendering position at which the sound source is to be synthesized to sound in the audio field;
- a rendering subsystem, including audio output devices, arranged to generate an audio field in which said sound sources are synthesized at their associated rendering positions, the audio output devices being such as to permit the user also to hear real-world sounds from ~~the~~ an environment where the user is located; and
- a distinctive-presentation arrangement operative to selectively apply, under user control, a distinctive presentation effect to the item-related sounds emanating from ~~a group of~~ at least one synthesised sound source whereby to assist the user in distinguishing ~~these~~ the sounds from the at least one synthesized sound source from said real-world sounds.

22. (Currently amended) Apparatus according to claim 21, wherein the rendering-position determining arrangement comprises:

- a setting arrangement for setting the location of the ~~or each group~~ at least one sound source relative to an audio-field reference;

- a control arrangement for controlling an offset between the audio field reference and a presentation reference, the presentation reference being determined by a mounting configuration of the audio output devices; and
- a deriving arrangement operative to derive the rendering position of the ~~or each group~~ at least one sound source based on its location relative to the audio-field reference and said offset;

~~the or each group~~ at least one sound source ~~representing being arranged to provide sounds for a~~ corresponding augmented reality service that has an associated real-world location, the rendering-position determining arrangement being operative to world-stabilise the audio field reference and to position the ~~or each group~~ at least one sound source relative to the audio field reference such that for a user located in a notional reference position, the at least one sound source lies in the same direction as the corresponding said real-world location.

23. (Original) Apparatus according to claim 21, wherein said distinctive presentation applied by the distinctive-presentation arrangement is a sound effect.

24. (Original) Apparatus according to claim 23, wherein said sound effect is at least one of:

- volume modulation
- pitch modulation
- frequency shifting
- distortion

- echo
- added noise
- added distinction sounds.

25. (Currently amended) Apparatus according to claim 21, wherein the rendering-position determining arrangement comprises:

- a setting arrangement for setting the location of the ~~or each said group~~ at least one sound source relative to an audio-field reference;
- a control arrangement for controlling an offset between the audio field reference and a presentation reference, the presentation reference being determined by a mounting configuration of the audio output devices; and
- a deriving arrangement operative to derive the rendering position of the ~~or each group~~ at least one sound source based on its location relative to the audio-field reference and said offset;

the rendering-position determining arrangement incorporating said distinctive-presentation arrangement and being operative to impart a particular stabilisation to the audio-field reference as the user moves, this stabilisation giving said distinctive presentation to the group of at least one sound sources.

26. (Original) Apparatus according to claim 25, wherein the audio-field reference is head stabilised.

27. (Currently amended) Apparatus according to claim 25, wherein the audio-field reference has an underlying stabilisation to which it is arranged to be periodically updated, the audio-field reference between such updating having a stabilisation inherent to the presentation reference.

28. (Currently amended) Apparatus according to claim 25, wherein the ~~or each group~~ at least one sound source ~~represents~~ is arranged to provide sounds for a corresponding augmented reality service that has an associated real-world location, the rendering-position determining arrangement being operative to world-stabilise the audio field reference and to position the ~~or each group~~ at least one sound source relative to the audio field reference such that for a user located in a notional reference position, the at least one sound source lies in the same direction as the corresponding said real-world location.

29. (Original) Apparatus according to claim 21, wherein at least some of the said items represented by the sound sources are audio labels for services, the apparatus including a selection arrangement for enabling a user to select a service by selecting the corresponding audio-label sound source.

30. (New) A method according to claim 1, wherein the user hears real-world sounds while the applying step is being performed.

31. (New) A method according to claim 11, wherein the user hears real-world sounds while the applying step is being performed.

32. (New) A method according to claim 1, wherein the item related sounds are applied to loudspeakers.

33. (New) A method according to claim 11, wherein the item related sounds are applied to loudspeakers.

34. (New) Apparatus according to claim 12, wherein the audio output devices are loudspeakers.

35. (New) Apparatus according to claim 21, wherein the audio output devices are loudspeakers.